

UC San Diego

Spring 2022 - UC San Diego Health Journal of Nursing: Pandemic Reflections

Title

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Permalink

<https://escholarship.org/uc/item/64t098qt>

Journal

UC San Diego Health Journal of Nursing, 15(1)

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Publication Date

2022-04-01

Peer reviewed

Surge Education: Embracing Virtual Teaching Methodologies



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At the onset of the pandemic, the Education Development and Research (EDR) Department needed to create and deliver an education plan to train non-Intensive Care Unit (ICU) nurses to care for ICU patients in the event of a surge of COVID-19 patients, when census would exceed capacity. Due to physical distancing limitations and stay-at-home orders, a Surge Education Team comprised of Nurse Educators and Clinical Nurse Specialists from EDR was formed to develop virtual training in addition to hands-on training. In total, 330 nurses were given ICU surge training over a 6-month period.

In developing the education plan, the team needed to take into consideration the high volume of education required, number of nurses needing to be trained, limitations on physical gathering, and short timeframe in which to complete the training. ICU surge training had to include many topics including medication administration, equipment, charting, protocols, and, most notably, ventilator management. Strict social distancing policies limited in-person classroom sizes to no more than a handful of people in one room at the same time. Finally, as many nurses as possible needed to be prepared to meet predicted surges in patient census and acuity, even amidst the uncertainty of when or how severe that surge would be.

The Surge Education Team developed a mixed-method approach to virtual training to meet the learning objectives while offering sufficient in-person learning opportunities to reinforce key concepts. A supplemental one-hour virtual Zoom session was

created to include information on COVID-19, ARDS, and ventilation theory. In addition, it covered common therapies used to treat COVID-19 and UC San Diego Health (UCSDH) protocols for ventilator patients. This Zoom session was widely attended and well-received as a training resource for staff. During the class, nurses' knowledge was tested utilizing questions with the virtual audience participation tool Poll Everywhere. The polling tool encouraged audience participation in a virtual setting and offered validation that the content was understood.

Ventilator training in particular presented one of the most significant learning needs for nurses. During the initial phases of the pandemic, many companies such as American Association of Critical Care Nurses (AACN) and OPENPediatrics developed and offered their virtual training interfaces free of charge to support healthcare training during the pandemic. These resources were evaluated and incorporated in the Surge Education Team's curriculum. AACN offered an array of ICU training modules and COVID education, and the company OPENPediatrics supplied a robust ventilator simulator. The class used case studies with the ventilator simulator that allowed attendees to troubleshoot common ventilator problems and situations. The team was also able to supplement and reinforce critical patient care scenarios using the virtual ventilator simulator.

Developing and teaching virtual education required the Surge Education Team who delivered the content and moderated the online

course to be proficient in using the ventilator simulator, Zoom, and Poll Everywhere simultaneously. The Surge Education Team created step-by-step teaching guides to ensure standardization and consistency in the education delivered by 7 different individual instructors. Along with developing proficiency in utilizing these virtual platforms, educators also needed to learn how to engage staff with varying levels of technological competency and with differing learning styles in a virtual learning environment.

Using virtual learning allowed the EDR department to offer high quality education and continue critical programs throughout the pandemic. While the learning curve was steep, this experience has widened the tools and skills available to offer education even in the most challenging times. Innovation and continuous improvement of virtual platforms and technological resources allow for education to be delivered in a hybrid model of self-learning modules, online learning environments and in-person hands-on training. Utilizing virtual tools to enhance and expand learning is now a staple in the EDR department and has improved the ability to offer more opportunities for education to a larger number of staff to meet demands.

The Nursing Education Development and Research Department team members that created and implemented the Surge Training Education program include:

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